▣Features

- ●13 kinds of various operation modes :
  Revolution, Speed, Frequency, Absolute ratio, Passing time, Error ratio, Period, Density, Passing speed, Error, Time width, Length measurement, Interval, Integration, Multiplication(MP5M Series have 11 operation modes)
- ●Various output function :
  Relay output, NPN/PNP open collector output, Low speed serial output, BCD output, PV transmission, RS485 communication output
- ●Various functions :
  Prescale function, Data monitoring function, Hysteresis width setting function, Max./Min. value monitoring function, Delay function, Auto zero time setting function, Lock setting function, Delay of display period function
- ●Max. display range : −19999 ~ 99999(MP5M:0~99999)
- ●Various display units : rpm, rps, Hz, kHz, sec, min, m, mm, mm/s, m/s, m/min, m/h, ℓ/s, ℓ/min, ℓ/h, %, counts, etc.
- ●Selectable voltage input(PNP) or No voltage input(NPN)
- ●50kHz High speed response function

⚠ **Please read "Caution for your safety" in operation manualbefore using.**

▣Ordering information

MP 5 S − 4 N

		Main output(Comparative value output)	Sub output(Display value output)
S Type	N	Indication type	X
Y Type	N	Indication type	X
	1	NPN open collector quintuple output	X
	2	PNP open collector quintuple output	X
	3	Indication type	BCD Dynamic
	4	Indication type	PV transmission(4−20mADC)
	5	Indication type	RS485 communication output
W Type	N	Indication type	X
	A	Quintuple relay(HH, H, GO, L, LL)	X
	1	Triple relay(H, GO, L)	X
	2	NPN open collector quintuple output	BCD Dynamic
	3	PNP open collector quintuple output	BCD Dynamic
	4	NPN open collector quintuple output	PV transmission(4−20mADC)
	5	PNP open collector quintuple output	PV transmission(4−20mADC)
	6	NPN open collector quintuple output	Low speed serial output
	7	PNP open collector quintuple output	Low speed serial output
	8	NPN open collector quintuple output	RS485 communication output
	9	PNP open collector quintuple output	RS485 communication output
M Type	N	Indication type	X
	1	Relay single−stage(High−limit) output + NPN open collector output	X
	2	Relay dual−stage(High/Low−limit) output + NPN open collector output	X

Output

Power supply	4	100−240VAC 50/60Hz
Size	S	DIN W48×H48mm
	Y	DIN W72×H36mm
	W	DIN W96×H48mm
	M	DIN W72×H72mm
Digit	5	5digit(99999)
Series	MP	Pulse meter

※PNP open collector output : Option

▣Specifications(MP5S/ MP5Y/ MP5W Series)

Series		MP5S	MP5Y	MP5W
Display method		7 Segment LED(Zero blanking type)		
Character size		W4 × H8mm	W6.8 × H13.8mm	
Max. indication		−19999 ~ 99999		
Power supply		100−240VAC 50/60Hz		
Allowable operation voltage		Allowable operation voltage: 90 ~ 110%		
Power consumption		Approx. 7.5VA(240VAC)	Approx. 3.5VA(240VAC)	Approx. 6VA
Power for external sensor		12VDC ±10%, 80mA		
Input frequency		• Soild−state input : Max. 50kHz(Pulse width:Each over 10㎲) • Contact input : Max. 45Hz(Pulse width:Over 11ms)		
Input level		[Voltage input] High : 4.5−24VDC, Low : 0−1.0VDC, Input impedance : 4.5kΩ [No−voltage input] Impedance at short−circuit : Max. 300Ω, Residual voltage : Max. 1V Impedance at open−circuit : Min. 100kΩ		
Measuring range		• Mode F1, F2, F7, F8, F9, F10 : 0.0005Hz ~ 50kHz • Mode F3 : 0.02s ~ 3,200s • Mode F4, F5, F6 : 0.01s ~ 3,200s • Mode F11, F12, F13 : 0 ~ 4 ×10⁹ Count		
Measuring accuracy (23 ±5℃)		• Mode F1, F2, F7, F8, F9, F10 : F.S. ±0.05% rdg ±1Digit • Mode F3, F4, F5, F6 : F.S. ±0.01% rdg ±1Digit		
Display period		0.05 / 0.5 / 1 / 2 / 4 / 8sec.(It is same with period of output update.)		
Operation mode		Number of revolution/Speed/Frequency(F1), Passing speed(F2), Cycle(F3), Passing time(F4), Time width(F5), Time interval(F6), Absolute ratio(F7), Error ratio(F8), Density(F9), Error(F10), Length measurement(F11), Interval(F12), Multiplication(F13) **※Refer to F-18~21 for the operation mode.**		
Prescale function		Direct input method(0.0001×10^{-9} to 9.9999×10^{9})		
Hysteresis		**(Note1)**	0 to 9999	
Other functions		• Lock the setting value function • Auto−Zero time setting function • Time unit selection function • Monitoring function : Memorize max. value • Memory protection function (Mode F13 applied only)	• Lock the setting value function • Monitoring delay function • Auto−Zero time setting function • Current output range selection(Current output type only) • Comparative output function(HH, H, GO, L, LL) • Time unit selection function • Deviation memory function(F output mode applied only) • Monitoring function : Memorize max. value or min. value • Remote/Local switching function(Communication output type only) • Data Bank switching function **(Note2)** • Memory protection function(Mode F13 applied only)	
Main output	Triple relay	———	———	250VAC 3A resistive load 3a
	Quintuple relay			250VAC 3A resistive load 5a
	NPN Open collector (Quintuple)		12−24VDC 30mA Max.	12−24VDC 20mA Max.
	PNP Open collector (Quintuple)			
Sub output	BCD Dynamic	———	NPN Open collector 12−24VDC 30mA Max.	NPN Open collector 12−24VDC 20mA Max.
	Low speed serial output	———	———	
	PV transmission	———	4−20mADC Load 600Ω Max.	4−20mADC Load 600Ω Max.
	RS485 communication	———	32 chennel, Mutual direction comunication function	
Memory protection		Non−volatile memory(Input : Min. 100,000 times)		
Insulation resistance		Min. 100MΩ(at 500VDC) Between charge part and non−charge part		
Dielectric stength		2000VAC 60Hz 1minute(Between terminals of AC power and case, Between terminals of AC power and measuring input terminals)		
Impulse noise stength		±2000VAC the square wave noise(pulse width:1㎲)by the noise simulator, Repeat frequency 60Hz		
Vibration	Mechanical	0.75mm amplitude at frequency of 10 ~55Hz in each of X, Y, Z directions for 2 hour		
	Malfunction	0.5mm amplitude at frequency of 10 ~ 55Hz in each of X, Y, Z directions for 10 minutes		
Shock	Mechanical	300m/s² (30G) in X, Y, Z directions for 3 times		
	Malfunction	100m/s² (10G) in X, Y, Z directions for 3 times		
Relay life cycle	Malfunction	———	Min. 10,000,000 times	
	Mechanical	———	Min. 100,000 times(250VAC 3A Load current)	
Ambient temperature		−10 ~ +50℃(at non−freezing status)		
Storage temperature		−20 ~ +60℃(at non−freezing status)		
Ambient humidity		35 ~ 85%RH		
Unit weight		Approx. 130g	Approx. 135g	Approx. 230g

※**(Note1)** The hysteresis setting range is changed by the setting position of decimal point. (Refer to F−24 for hysteresis function.)
※**(Note2)** Data Bank switching function is in MP5W series only.

▣Specifications(MP5M Series)

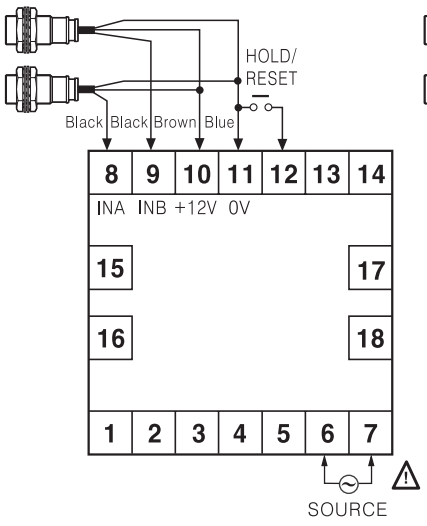
Model	MP5M-4N	MP5M-41	MP5M-42
	Indication type	High-limit setting type	High/Low-limit setting type
Display method	7 Segment LED(Zero Blanking), Letter size : W4 X H8mm		
Max. indication	0.0001 ~ 99999		
Power supply	100-240VAC 50/60Hz		
Allowable operation voltage	Allowable operation voltage: 90 ~ 110%		
Power consumption	Approx. 7.5VA(240VAC)	Approx. 8VA(240VAC)	
Power for external sensor	12VDC ±10%, 80mA		
Input frequency	• Solid-state input : Max. 50kHz(pulse width:over 10μs) • Contact input : Max. 45Hz(pulse width:over 11ms)		
Input level	[Voltage input] High : 4.5-24VDC, Low : 0-1.0VDC, Input impedance : 4.5kΩ [No-voltage input] Impedance at short-circuit : Max. 300Ω, Residual voltage : Max. 1V Impedance at open-circuit : Min. 100kΩ		
Measuring range	• Mode F1, F2, F7, F8 : 0.0005Hz ~ 50kHz • Mode F3 : 0.02s ~ 3,200s • Mode F4, F6 : 0.01s ~ 3,200s • Mode F9, F10, F11 : 0 ~ 4 ×10⁹ Count		
Measuring accuracy (23 ±5℃)	• Mode F1, F2, F7, F8 : F.S. ±0.05% rdg ±1Digit • Mode F3, F4, F5, F6 : F.S. ±0.01% rdg ±1Digit		
Display period	0.05 / 0.5 / 1 / 2 / 4 / 8sec.(It is same with period of output update.)		
Operation mode	Number of revolution/Speed/Frequency(F1), Passing speed(F2), Period(F3), Passing time(F4), Time width(F5), Time interval(F6), Absolute ratio(F7), Density(F8), Length measurement(F9), Interval(F10), Multiplication(F11) **※Refer to F-18~21 for operation mode.**		
Prescale function	Direct input method(0.0001×10^{-9} ~ 9.9999×10^{9})		
Hysteresis	———	**(Note1)** 0 ~ 9999	
Other function	• Lock the setting value function • Auto-Zero time setting function • Time unit selection function • Display value monitoring function • Memory protection function (Mode F11 applied only)	• Lock the setting value function • Monitoring delay function • Auto-Zero time setting function • Time unit selection function • Display value monitoring function • Memory protection function (Mode F11 applied only) • High-limit output function(H)	• Lock the setting value function • Monitoring delay function • Auto-Zero time setting function • Time unit selection function • Display value monitoring function • Memory protection function (Mode F11 applied only) • Comparative output function(H, L) • Output mode selection fuction (S, H, L, B, I, F) • Deviation memory function (F output mode applied only)
Main output: Relay output	———	250VAC 3A resistive load 1c	250VAC 3A resistive load 1a×2
Main output: NPN Open Collector		30VDC 100mA Max.	30VDC 100mA Max. ×2
Memory protection	Non-volatile memory(Input : Min. 100,000 times)		
Unit weight	Approx. 275g	Approx. 310g	Approx. 330g

※MP5S, MP5Y, MP5W have same function.
※**(Note1)** The hysteresis setting range is changed by the setting position of decimal point. (Refer to F-24 Page, hysteresis function.)

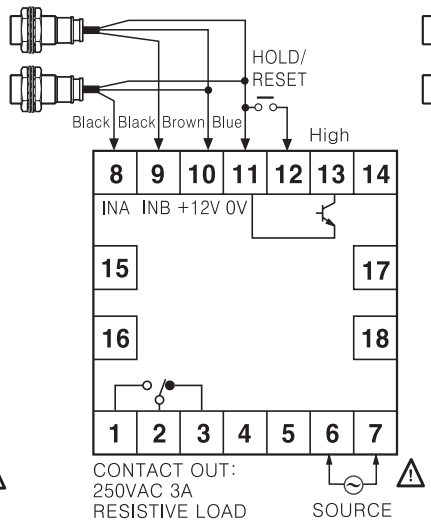
▣Connections

◎MP5M Series

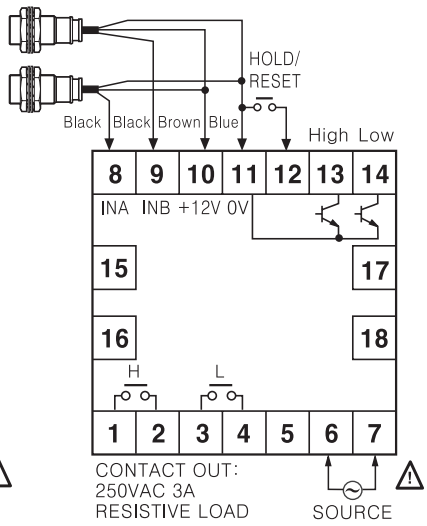
●**MP5M-4N**(Indication type)



●**MP5M-41**(High-limit setting type)



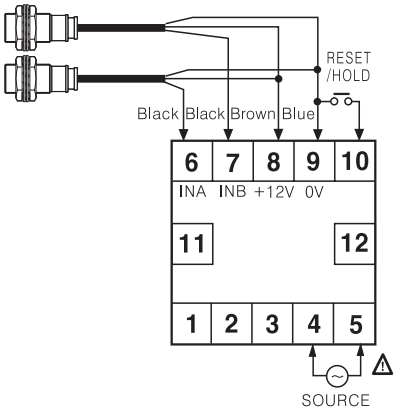
●**MP5M-42**(High/Low-limit setting type)



▣Connections

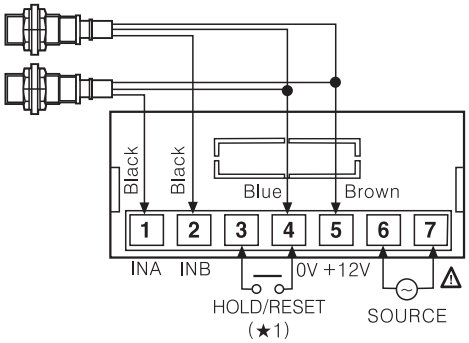
◎MP5S Series

●**MP5S-4N**(Indication type)

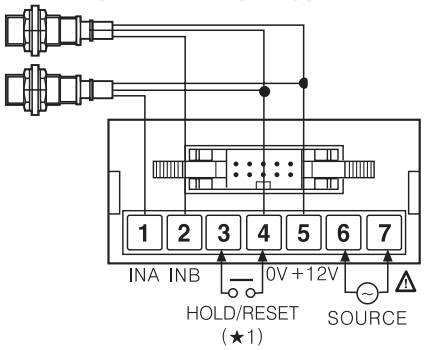


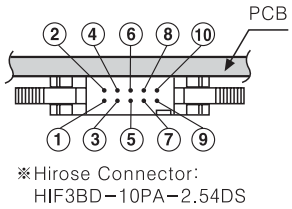
◎MP5Y Series

●**MP5Y-4N**(Indication type)



●**Main output / Sub ouput type**





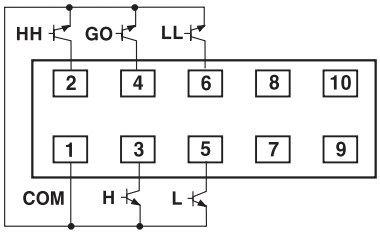
※Hirose Connector:
HIF3BD-10PA-2.54DS

※(★1)It is used for RESET terminal when an operation mode is F13. (Refer to F-18~21 for operation mode.)

◈Main output(Connector)

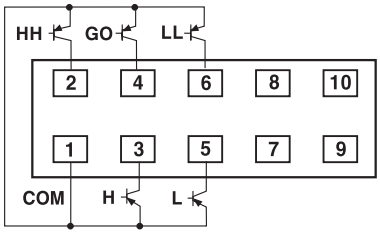
●**MP5Y-41**(NPN Open Collector output)

MAIN OUT
(NPN OPEN COLLECTOR:12-24VDC Max. 30mA)



●**MP5Y-42**(PNP Open Collector output)

MAIN OUT
(PNP OPEN COLLECTOR:12-24VDC Max. 30mA)

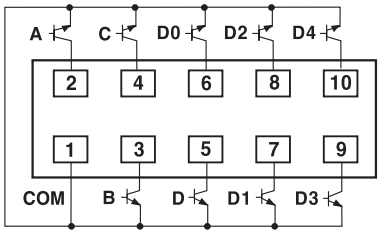


※Main output type & Sub output type : Option

◈Sub output(Connector)

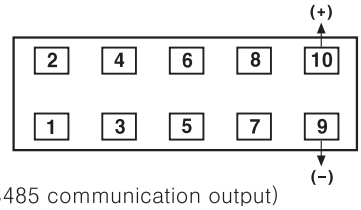
●**MP5Y-43**(BCD Dynamic output)

BCD OUT
(NPN OPEN COLLECTOR:12-24VDC Max. 30mA)

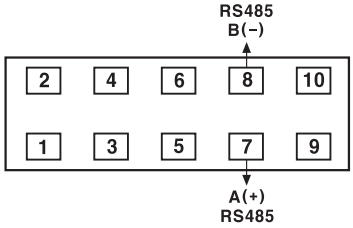


●**MP5Y-44**(PV transmission output)

DC4-20mA
Load 600Ω Max.

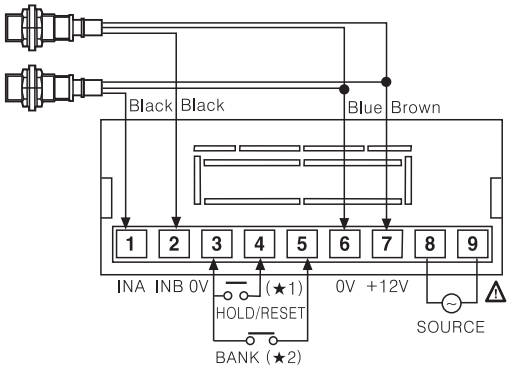


●**MP5Y-45**(RS485 communication output)



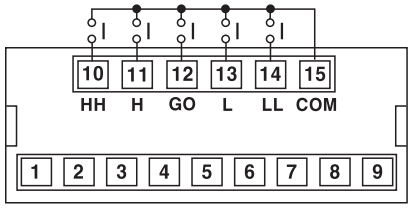
◎MP5W Series

●MP5W-4N(Indication type)

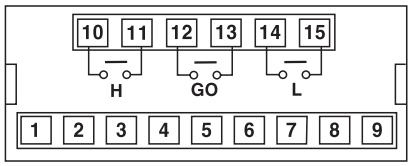


※(★1)It is used for RESET terminal when an operation mode is F13. (Refer to F-18~21)
※(★2)Refer to F-24 for BANK function.
※Main output type & Sub output type : option

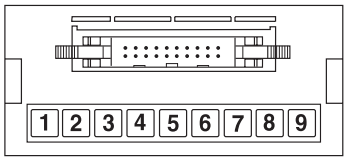
●MP5W-4A(Quintuple relay output)

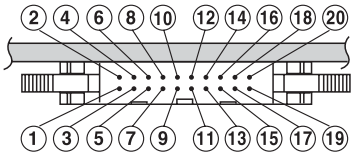


●MP5W-41(Triple relay output)



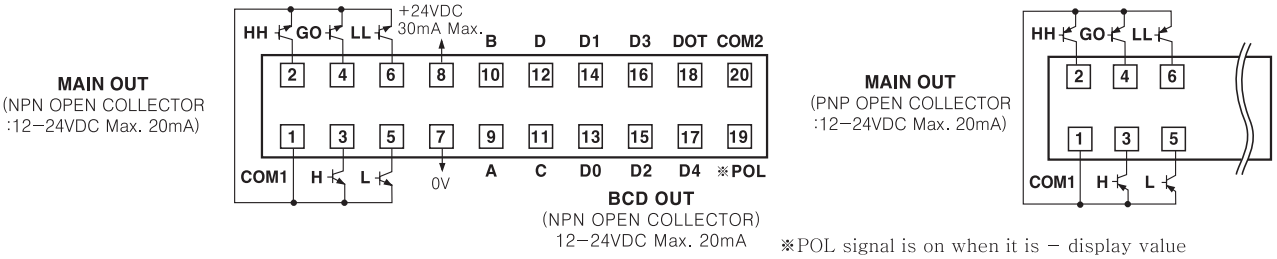
◈Main output+Sub output(Connector)





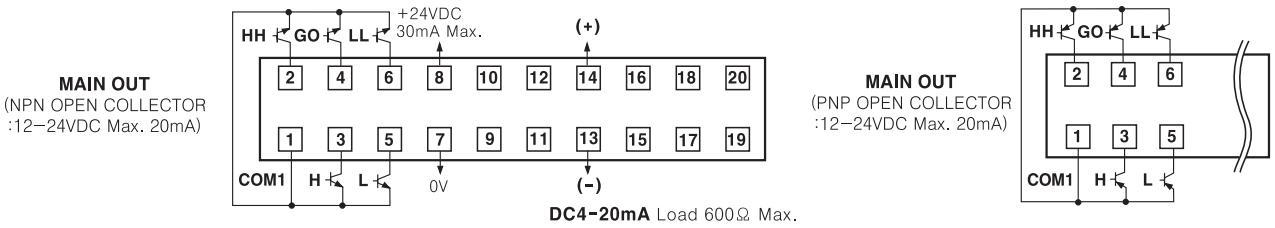
※Hirose Connetor:HIF3BA-20PA-2.54DS

●MP5W-42/ MP5W-43(NPN/PNP Open Collector output + BCD output)



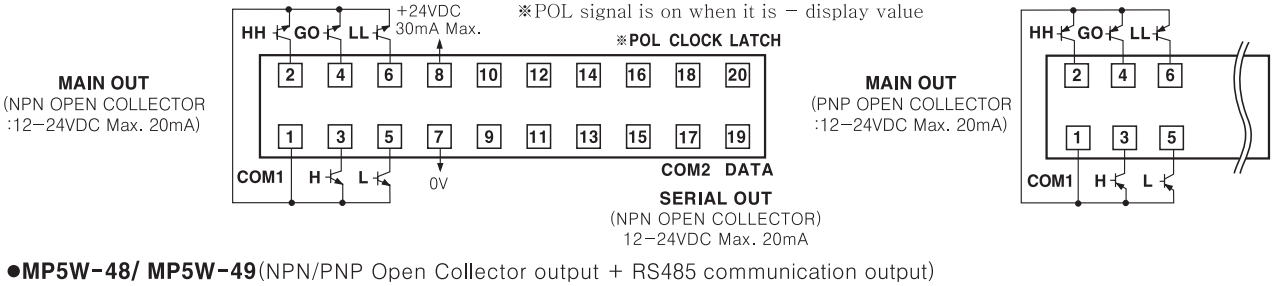
※POL signal is on when it is - display value

●MP5W-44/ MP5W-45(NPN/PNP Open Collector output + PV transmission output(4-20mADC) output)

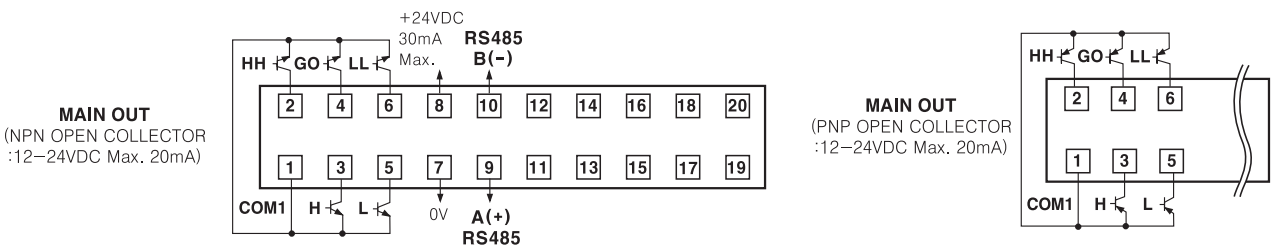


●MP5W-46/ MP5W-47(NPN/PNP Open Collector output + Low speed serial output)

※POL signal is on when it is - display value

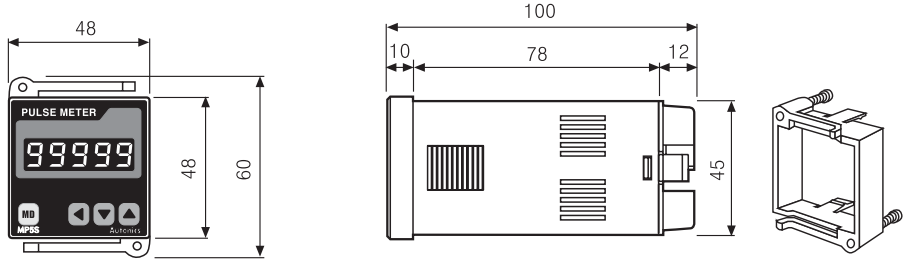


●MP5W-48/ MP5W-49(NPN/PNP Open Collector output + RS485 communication output)

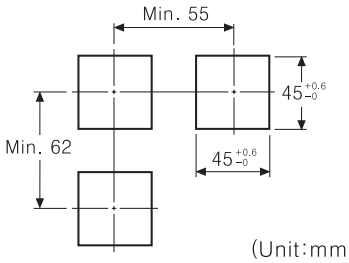


▣Dimensions

●MP5S Series

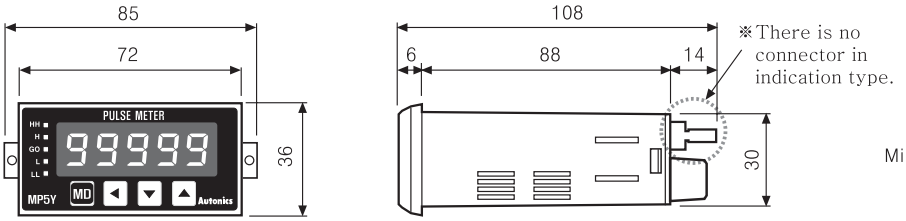


●Panel cut-out



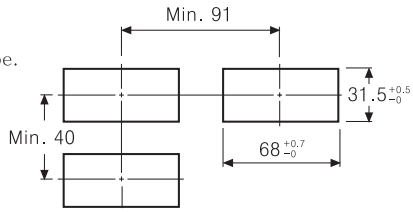
(Unit:mm)

●MP5Y Series



※Hirose connector :HIF3BD-10PA-2.54DS

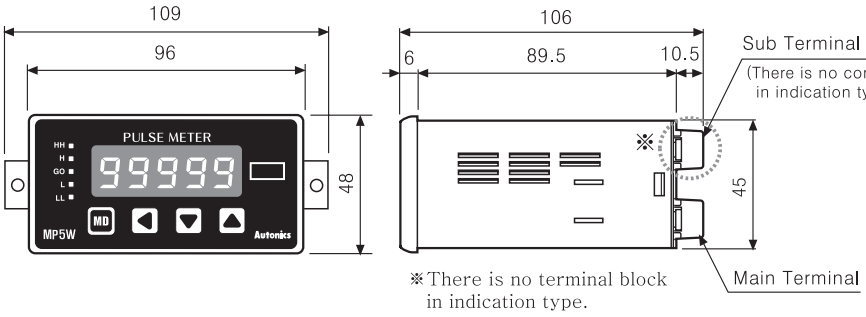
●Panel cut-out



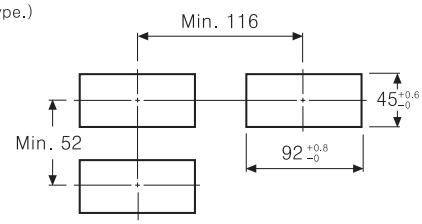
(Unit:mm)

●MP5W Series

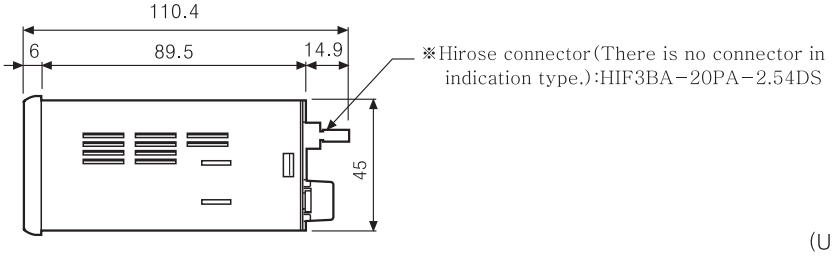
[Terminal block type]



●Panel cut-out

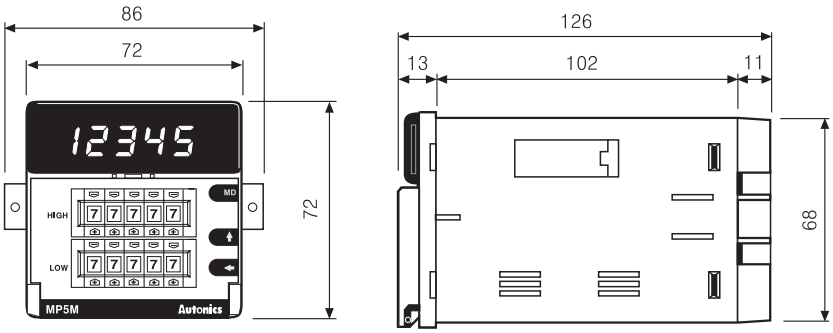


[Connector type]

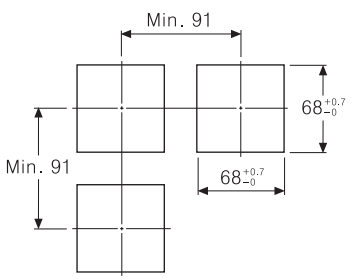


(Unit:mm)

●MP5M Series



●Panel cut-out



(Unit:mm)

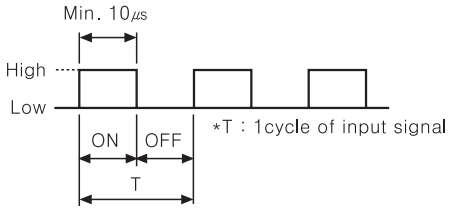
▣Input specifications

◎Input signal

●Solid-state input

• Input frequency : **50kHz Max.**
Standard duty ratio of input signal is 1:1,
ON/OFF pulse width should be over 10㎲.

• Input voltage Level : High → 4.5-24VDC, Low → 0-1.0VDC



●Relay contact input

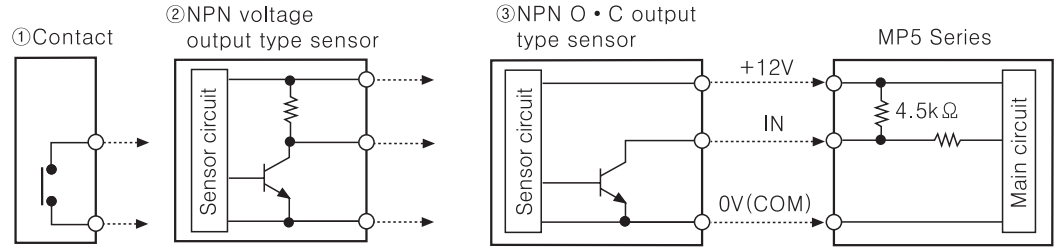
• Input frequency : **45Hz Max.**
ON/OFF pulse width should be over 11ms.

• Relay contact specification : Please use a relay contact that can carry the load current(min. 12VDC 2mA).

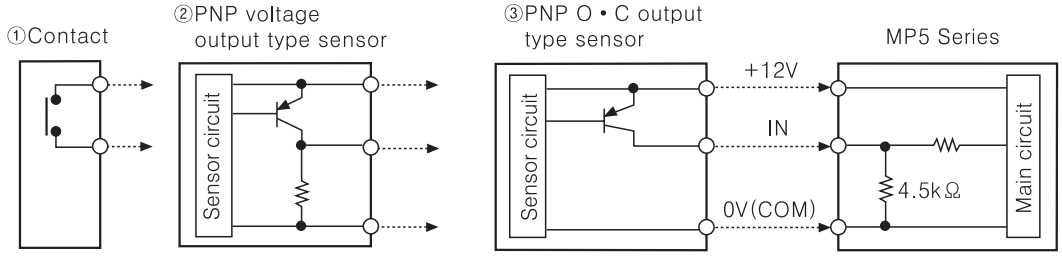
◎Input type

MP5 has NPN input and PNP input and it is able to select in Parameter group 1.

●When it is NPN input type



●When it is PNP input type



※O • C is Open collector output.

▣Output specifications(MP5Y/ MP5W Series)

◎BCD Dynamic output(Negative logic)

●Output : Display value

●Output signal :

BCD Data(A, B, C, D, DOT) ← A : Lowest bit
Dot : Highest bit

Digit Data(D0, D1, D2, D3, D4) ← D0 : Lowest digit
D4 : Highest digit

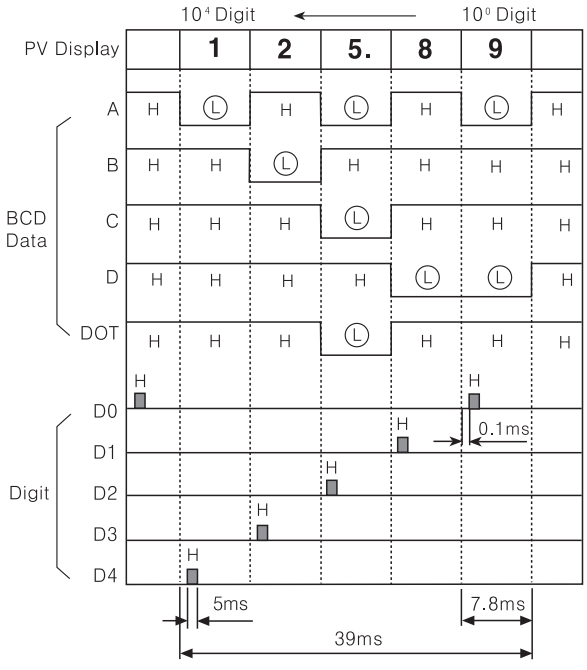
※There is no DOT data output in MP5Y-43, therefore decimal point should be mark in first display plate.

●Output type : NPN Open collector

●Rated load voltage : 12-24VDC

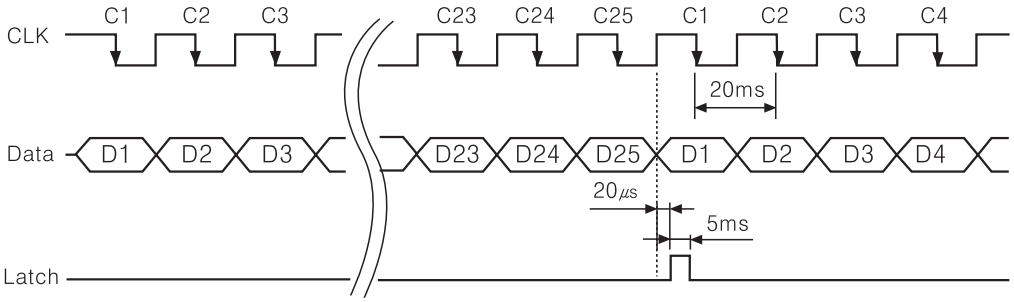
●Max. load current : 30mA(MP5Y)/ 20mA(MP5W)

Ex) When BCD Dynamic output is 125.89

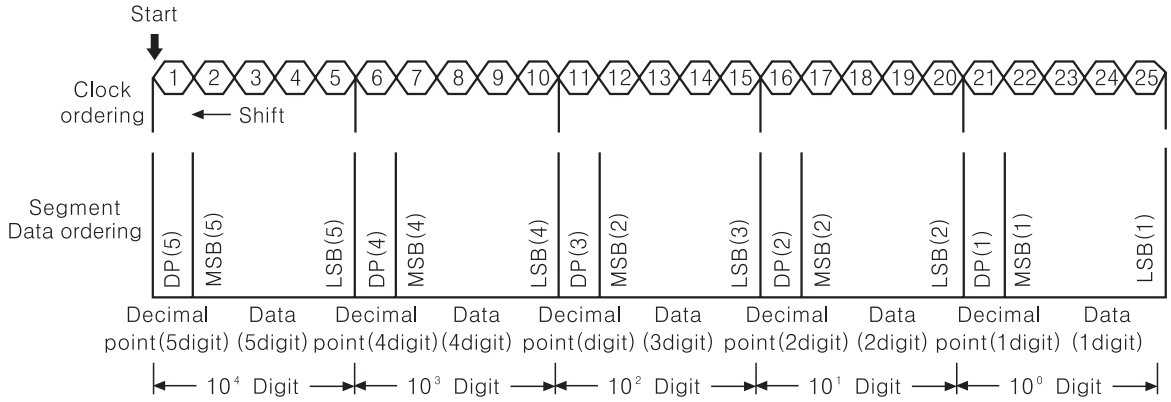


◎Low speed serial output(Negative logic)

- ●Output : Display value
- ●Output signal : Clock, Data, Latch
- ●Clock cycle : 50Hz
- ●Output CLK bit : 25 bit
- ●Output Data bit : 25 bit
- ●Output form : NPN Open Collector
- ●Rated load voltage : 12−24VDC
- ●Max. load current : 30mA(MP5Y)/ 20mA(MP5W)
- ●Serial transmission time diagram

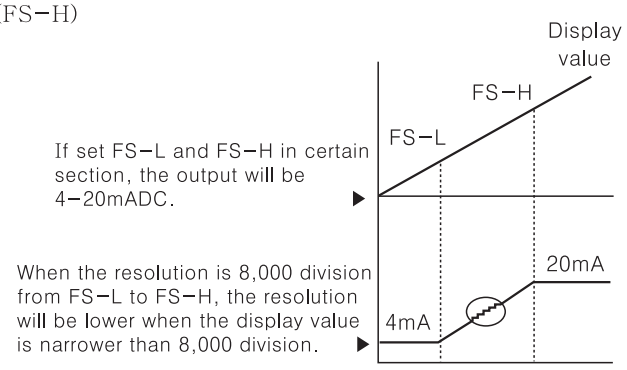


- ●Data output order when it is serial transmission



◎PV transmission output(4−20mADC)

- ●Application : Transmit the measured value
- ●Function : This function is to transmit 4−20mADC converted from measured display value between High limit output(FS−H) and Low limit(FS−L).
- ●Range of High/Low limit output setting
- ●High limit setting range(FS−H)
  From min. to max within range of measurment
- ●Low limit setting range(FS−L)
  From min. to max within range of measurment
- ●Load resistance : Max. 600Ω
- ●Resolution : 8000 division



◎RS485 communication output

- ●Address : 0 ~ 99 address(32 channels)
- ●Transmission speed(Baud rate) : 2400/4800/9600 bps
- ●Transmission code : ASCII
- ●Parity Bit : No
- ●Data Bit : 8 Bit
- ●Stop Bit : 1 Bit
- ●Communication items
  MP5W ← PC : Comparative value of each bank data, Prescale value and Peak value, RESET control
  MP5W → PC : Comparative value of each bank data, Prescale value and Peak value, Display value

※Refer to F−25 for communication data.

▣Parameter group chart for operation mode

- ●Parameter display are different according to each operation mode, refer to "▣**Parameter**" part.
- ●"◐" : When select the operation mode, the parameter will be displayed.
  "X" : When select the operation mode, the parameter will not be displayed.
- ●"◎" : It is only able to set nPn.h.F or PnP.h.F for In-b sensor type in F11, F12, F13 of operation mode.

Parameter display		F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13
Parameter group 0	PSt.hh	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
	PSt. h	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
	PSt. L	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
	PSt.LL	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
	h.PEY	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	X
	L.PEY	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	X
Parameter group 1	nodE	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
	In-A	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
	In-b	X	◐	X	X	X	◐	◐	◐	◐	◐	◎	◎	◎
	out-t	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	X
	hYS	◐	X	X	X	X	X	◐	◐	◐	◐	X	X	X
	GuAr.d ↔ F.dEFY	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	X
	GuAr.d ↔ StAr.t	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	X
	Auto.A	◐	X	X	◐	X	X	◐	◐	◐	◐	X	X	X
	Auto.b	X	X	X	X	X	X	◐	◐	◐	◐	X	X	X
	nEno	X	X	X	X	X	X	X	X	X	X	X	X	◐
Parameter group 2	P.bAnY	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
	dot	◐	◐	X	X	X	X	◐	◐	◐	◐	◐	◐	◐
	t.unt	X	X	◐	◐	◐	◐	X	X	X	X	X	X	X
	PSt.hh	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
	PSt. h	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
	PSt. L	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
	PSt.LL	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
	PSC.AH	◐	◐	X	◐	X	X	◐	◐	◐	◐	◐	◐	◐
	PSC.AY	◐	◐	X	◐	X	X	◐	◐	◐	◐	◐	◐	◐
	PSC.bH	X	X	X	X	X	X	◐	◐	◐	◐	X	X	X
	PSC.bY	X	X	X	X	X	X	◐	◐	◐	◐	X	X	X
	dISPt	◐	X	X	X	X	X	◐	◐	◐	◐	X	X	X
Parameter group 3	FS-h	When it is PV transmission output, it operates in all mode.												
	FS-L													
	Addr	When it is RS485 communication output, it operates in all mode.												
	bPS													
	rEnot													
	LoC	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐

▣ Operation mode by each series

Operation mode / Series name	Frequency Rotation Speed	Passing speed	Period	Passing time	Time width	Time interval	Absolute ratio	Error ratio	Density	Error	Length measurement	Interval	Multiplication
MP5S/MP5Y/MP5W	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13
MP5M	F1	F2	F3	F4	F5	F6	F7	X	F8	X	F9	F10	F11

▣Parameter group chart for model

- ●The parameter has different mode according to each model, therefore refer to "▣ Parameter group chart" and "Operation chart for each mode".
- ●◐ : When selecting the operation mode, the parameter will be displayed.
  X : When selecting the operation mode, the parameter will not be displayed.

	Parameter \ Model	MP5S-4N MP5Y-4N MP5W-4N MP5M-4N	MP5Y-41 MP5Y-42	MP5Y-43	MP5Y-44	MP5Y-45	MP5W-41	MP5W-4A MP5W-42 MP5W-43	MP5W-44 MP5W-45	MP5W-46 MP5W-47	MP5W-48 MP5W-49	MP5M-41	MP5M-42
Parameter group 0	PSt.hh	X	◐	X	X	X	X	◐	◐	◐	◐	X	X
	PSt. h	X	◐	X	X	X	◐	◐	◐	◐	◐	X	X
	PSt. L	X	◐	X	X	X	◐	◐	◐	◐	◐	X	X
	PSt.LL	X	◐	X	X	X	X	◐	◐	◐	◐	X	X
	h.PEY	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
	L.PEY	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
Parameter group 1	nodE	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
	In-A	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
	In-b	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
	out-t	X	◐	X	X	X	◐	◐	◐	◐	◐	X	◐
	hYS	X	◐	X	X	X	◐	◐	◐	◐	◐	◐	◐
	GuAr.d ↔ F.dEFY	X	◐	X	X	X	◐	◐	◐	◐	◐	X	◐
	GuAr.d ↔ StAr.t	X	◐	X	X	X	◐	◐	◐	◐	◐	X	◐
	Auto.A	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
	Auto.b	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
	nEno	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
Parameter group 2	P.bAnY	◐	X	X	X	X	◐	◐	◐	◐	◐	X	X
	dot	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
	t.unt	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
	PSt.hh	X	◐	X	X	X	X	◐	◐	◐	◐	X	X
	PSt. h	X	◐	X	X	X	◐	◐	◐	◐	◐	X	X
	PSt. L	X	◐	X	X	X	◐	◐	◐	◐	◐	X	X
	PSt.LL	X	◐	X	X	X	X	◐	◐	◐	◐	X	X
	PSC.A.H	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
	PSC.A.Y	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
	PSC.b.H	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
	PSC.b.Y	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
	diSP.t	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
Parameter group 3	FS-h	X	X	X	◐	X	X	X	◐	X	X	X	X
	FS-L	X	X	X	◐	X	X	X	◐	X	X	X	X
	Addr	X	X	X	X	◐	X	X	X	X	◐	X	X
	bPS	X	X	X	X	◐	X	X	X	X	◐	X	X
	rEnot	X	X	X	X	◐	X	X	X	X	◐	X	X
	LoC	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐

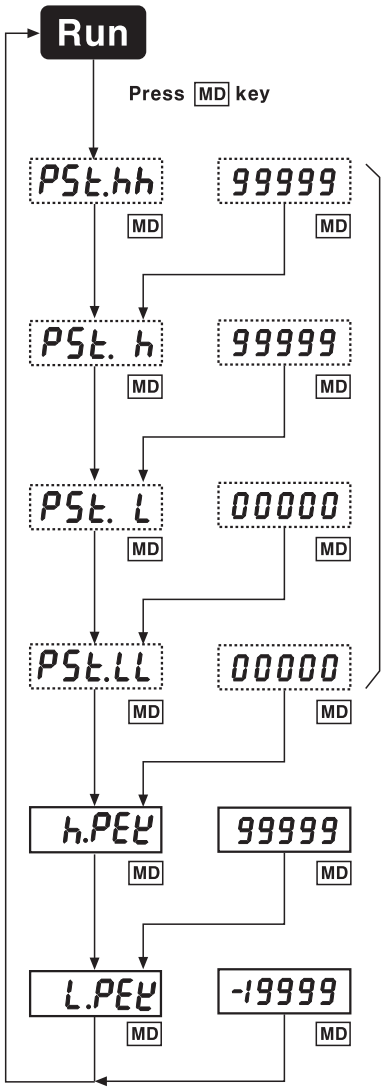
※ : Data bank(P.bAnY) setting is available in only MP5W-4N.

▣Monitoring delay operation function chart by each output mode

out-t	StArd	out-h	out-L	out-b	out-I	out-F
Comparative output limit function	◐	X	X	◐	X	◐
Starting correction timer function	◐	◐	◐	◐	◐	◐

▣Parameter

●Parameter group 0



If MD key is pressed in **RUN** mode, it will advance to Parameter group 0.

Set HH comparative value. Refer to the "Setting range of comparative value by operation mode" for a setting range.
(◀ : Shift the setting digit ▼, ▲ : Change the setting value)

Set H comparativevalue.
(◀ : Shift the setting digit
▼, ▲ : Change the setting value)

(◀ : Shift the setting digit
▼, ▲ : Change the setting value)

(◀ : Shift the setting digit
▼, ▲ : Change the setting value)

Display High Peak value among measuring values.
If ◀ key is pressed for 2 sec, The Peak value will be reset and it displays a current measuring value

Display Low Peak value among measuring values.
If ◀ key is pressed for 2 sec, The Peak value will be reset and it displays a current measuring value

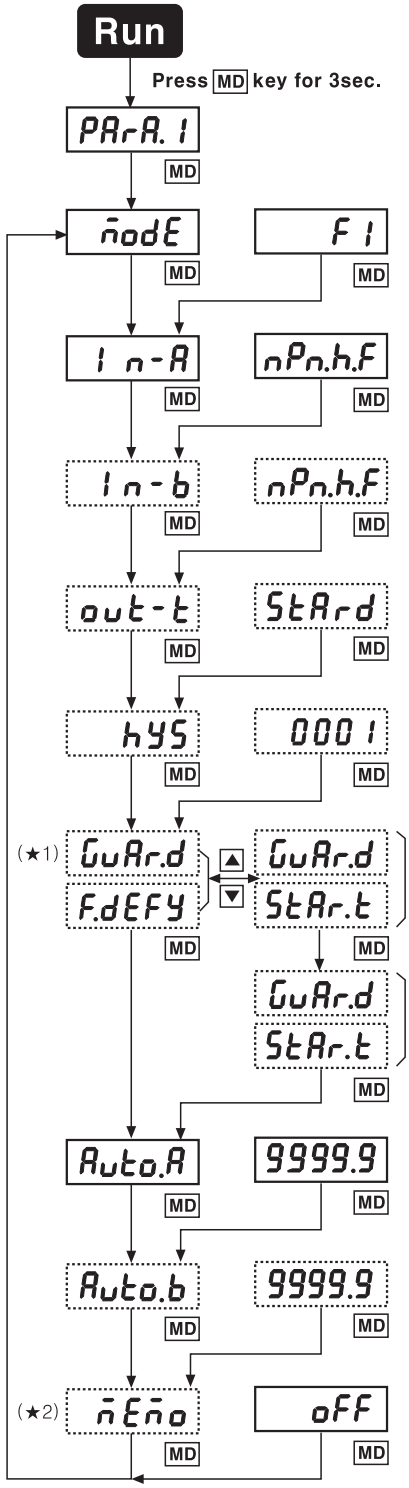
●Setting range of comparative value by operation mode

Operation mode	Setting range
F1, F2, F7, F9, F11, F12, F13	0 ~ 99999
F3, F4, F5, F6	0 ~ Setting time range
F8, F10	−19999 ~ 99999

※The setting range is changed by setting position of decimal point.

※If MD key is pressed in **RUN** mode, it will advance to Parameter group 0.
※When advance to Parameter group 0, parameter and set data value is flashed as 1 sec. cycle.
※(★1) • The parameter shown in dotted line is displayed only for comparative value setting type.
• If selecting F mode among output modes, it is to set H and L deviation only, therefore [PSt.hh] and [PSt.LL] parameter will not appear.
※After changing set data value in each parameter, data will be saved by press MD key for 2sec and return to **RUN** mode, but if any keys are untouched for 60sec while changing data, it will return to **RUN** mode with previous set value.
• If it is not comparing value setting type, [h.PEU] will appear when advance to parameter group 0.

●Parameter group 1



This is parameter group 1.
Display **PArA. 1** for 2 sec and move to **nodE**.

Select operation mode.
► F 1 → F2 → F3 ~ F 13 ┐
(▼ , ▲ : Change the operation mode)

Set the sensor type of input A.
► nPn.h.F → nPn.L.F → PnP.h.F → PnP.L.F ┐
(▼ , ▲ : Change the)

Set the sensor type of input B.
► nPn.h.F → nPn.L.F → PnP.h.F → PnP.L.F ┐
(▼ , ▲ : Change the sensor type)

●Input sensor

NPN input type
• Transistor input : nPn.h.F • Contact input : nPn.L.F
PNP input type
• Transistor input : PnP.h.F • Contact input : PnP.L.F

Select the output mode.
► StArd → out-h → out-L → out-b → out-1 → out-F ┐
(▼ , ▲ : Change the output mode)

Set the hysteresis for the output .
Setting range : 0 ~ 9999 (The hysteresis range differs by the setting position of desimal point. See F-24 page)
(▼ , ▲ : Change the setting value)

Starting protection timer function(StAr.t) or comparative output(L, LL) limit function(F.dEFY)
► F.dEFY → StAr.t ┐
(▼ , ▲ : Change the setting value)

Set the protection time when it is a starting protection timer function(StAr.t).
setting range : 0.0 ~ 99.9 sec
(◄ : Move the digit ▼ , ▲ : Change the setting value)

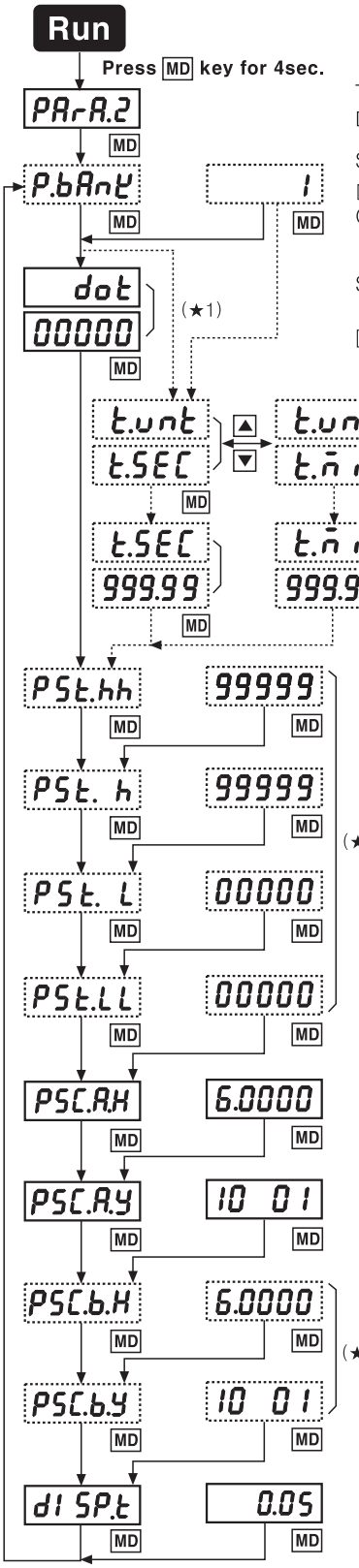
Set the Auto-Zero time of INA input.
Setting range : 0.1 ~ 9999.9 sec
(◄ : Move the digit ▼ , ▲ : Change the setting value)

Set the Auto-Zero time of INB input.
Setting range : 0.1 ~ 9999.9 sec
(◄ : Move the digit ▼ , ▲ : Change the setting value)

It sets the memory protection.
► oFF → on ┐ (oFF : Enable of memory retention,
on : Disble of memory protection)
(▼ , ▲ : Change the setting value)

※If MD key is pressed for 3 sec. in **RUN** mode, it will advance to Parameter group 1.
※When advance to Parameter group 1, parameter and set data value flash as 1 sec. cycle.
※The parameter shown in dotted line is not displayed by operating mode.
(Refer to F-12page, "**Parameter group chart for operation mode**".)
※(★1) The parameter is displayed in case of comparative value setting type only.
(Except for indication type and MP5M-41.)
※(★2) The Selecting function of memory protection is displayed when the mode is F13(Integration mode).
(But, F11 mode for MP5M-42)
※After changing setting value in each Parameter, data will be saved by press MD key for 2sec and return to **RUN** mode, but if any keys are untouched for 60sec while changing data, it will return to **RUN** mode with previous set value.

●Parameter group 2



This is Parameter group 2.
Display **PArA.2** for 2 sec. and move to [**dot**] parameter automatically.

Select Data Bank.
1 → 2 (▼, ▲: Change the setting value)
Only MP5W type has the Data bank parameter.

Set the decimal point position of display value.
00000 → 00000 → 00000 → 00000 → 00000

It will be displayed in F3, F4, F5, F6 operation mode and set the **time unit**.
t.SEC → t.n in (▼, ▲ : Change the setting value)

It will be displayed in F3, F4, F5, F6 operation mode and set the **time range**.
999.99 → 9999.9 → 99.59.9 → 9.59.59 (sec.) → 999.59 (min.) → 99999 (▼, ▲ :Change the setting value)

●Time range by time unit

SEC	MIN
999.99sec.	999.99min.
9999.9 sec.	9999.9min.
99min59.9sec.	99hour59.9min.
9hour59min59sec.	999hour59min.
99999sec.	99999min.

Set the comparative value HH. See "Setting range of comparative value by operating mode" for setting range.
(◀:Shift the setting digit ▼, ▲:Change the setting value)

Set the comparative value H. See "Setting range of comparative value by operating mode" for setting range.
(◀:Shift the setting digit ▼, ▲:Change the setting value)

(★2)

Set the comparative value LL. See "setting range of comparative value by operating mode" for setting range.
(◀:Shift the setting digit ▼, ▲:Change the setting value)

Set the comparative value L. See "Setting range of comparative value by operating mode" for setting range.
(◀:Shift the setting digit ▼, ▲:Change the setting value)

●Setting range of comparative value by operation mode

Operation mode	Setting range
F1, F2, F7, F9, F11, F12, F13	0 ~ 99999
F3, F4, F5, F6	0 ~ Setting time range
F8, F10	−19999 ~ 99999

※The setting range differs by setting position of decimal point.

Set the prescale value of input A mantissa(X).
Setting range : 0.0001 ~ 9.9999
(◀:Shift the setting digit ▼, ▲ :Change the setting value)

Set the prescale value of input A an exponent(y).
Setting range : -9 ~ 09 (10^{-9} ~ 10^{9})
(◀:Shift the setting digit ▼, ▲:Change the setting value)

Set the prescale value of input B mantissa(X).
Setting range : 0.0001 ~ 9.9999
(◀:Change the digit ▼, ▲:Change the setting value)

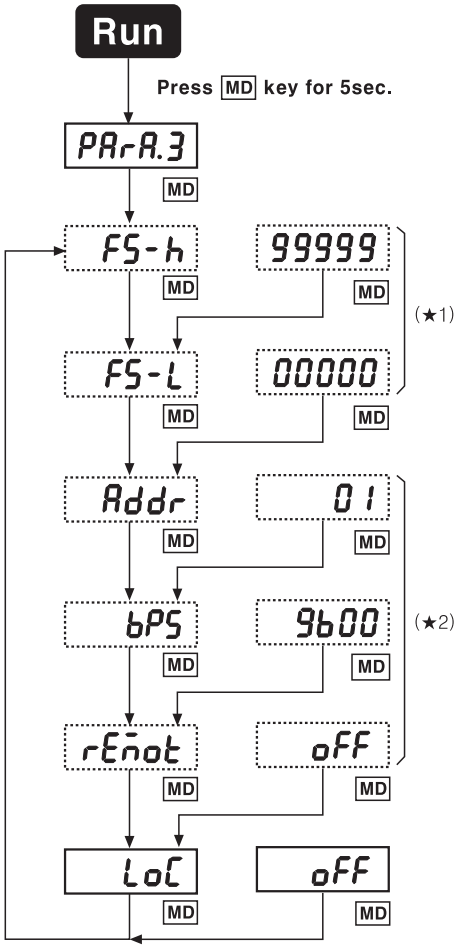
(★3)

Set the prescale value of input A an exponent(y).
Setting range : -9 ~ 09 (10^{-9} ~ 10^{9})
(◀:Change the digit ▼, ▲:Change the setting value)

Select the display cycle.
0.05 → 0.5 → 1 → 2 → 4 → 8 (Unit:sec)
(▼, ▲:Change the setting value)

※If MD key is pressed for 4sec.in **RUN** mode, [**PArA.1**]will be displayed after [**PArA.2**]. If MD key is released, it is advance to Parameter group 2.
※When advance to Parameter group 2, parameter and set data value is flashed as 1sec cycle.
※(★1)It will be displayed only in F3, F4, F5, F6 modes.
※(★2)If selecting F mode among output modes, it is set H and L deviation only, therefore [**PSt.hh**] and [**PSt.LL**] parameter will not appear.
※(★3)It will be displayed only in F7, F8, F9, F10 modes. But in case of MP5M typw, it is displayed only in F7, F8 modes.
※After changing the setting value in each Parameters, if MD key is pressed for 2sec., data will be saved then return to **RUN**. If any keys are untouched for 60sec., previous data will be saved and return to **RUN**.

●Parameter group 3



This is Parameter group 3.
Display **PArA.3** for 2 sec. and move to [**FS-h**] parameter automatically.

Set the High-limit value of PV retransmission output.
See "setting range of comparative value by operating mode" for setting range
(◀:Shift the setting digit ▼,▲:Change the setting value)

Set the Low-limit value of PV retransmission output.
(◀:Shift the setting digit ▼,▲:Change the setting value)

●Setting range of comparative value by operation mode

Operation mode	Setting range
F1, F2, F7, F9, F11, F12, F13	0 ~ 99999
F3, F4, F5, F6	0 ~ Setting time range
F8, F10	−19999 ~ 99999

※The setting range differs by setting position of decimal point.

Set the communication Address.
setting range : **00** ~ **99** (32channel)
(◀:Shift the setting digit
▼,▲:Change the setting value)

Set the communication Speed.
→ 9600 → 4800 → 2400 ┐
(◀:Shift the setting digit
▼,▲:Change the setting value)

Select the Remote and the Local.
→ oFF → on ┐ (**oFF** : using, **on** : non-using)
(◀:Shift the setting digit ▼,▲:Change the setting value)

Enable to lock the key for each parameter group
→ oFF → LoC.0 → LoC.1 → LoC.2 → LoC.3 ┐
(▼,▲:Change the setting value)

- oFF : Lock cancel
- LoC.0 : P0 ~ 3 Lock
- LoC.1 : P1 ~ 3 Lock
- LoC.2 : P2 ~ 3 Lock
- LoC.3 : P3 Lock only

※If MD key is pressed for 5sec. in RUN mode, [**PArA.1**] and [**PArA.2**] will be displayed after [**PArA.3**].
If MD key is released, it is advance to Parameter group 3.
※When entering into Parameter group 3, parameter and data value is flashed as 1sec. cycle.
※(★1) The parameter is displayed in case of PV transmission output type only.
※(★2) The parameter is displayed in case of RS485 transmission output type only. When selecting Remote[**rEnot**], it is not able to operate front keys.
※After changing setting value in each parameters, data will be saved by press MD key for 2sec and return to **RUN** mode, but if any key is untouched for 60sec while changing data, it will return to **RUN** move with previous set value.

▣Factory defalts

●Parameter 1 group

Mode	Setting value
nodE	F1
In-A	nPnhF
out-t	StArd
hYS	0001
GuAr.d	F.dEFY
AutoA	9999.9
nEno	oFF

●Parameter 2 group

Mode	Setting value
P.bAnd	1
dot	00000
PSt.hh	99999
PSt. h	99999
PSt. L	00000
PSt.LL	00000
PSCAH	6.000
PSCAY	10 01
dI SP.t	0.05

●Parameter 3 group

Mode	Setting value
FS-h	99999
FS-L	00000
Addr	01
bPS	9600
rEnot	oFF
LoC	oFF

※**Setting specification may not be displayed because of operation mode or output specification.**